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UNITED STATES DEPARTMENT OF AGRICULTURE

BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE

Project

Date

Author

TITLE

SECOND REPORT ON SURVEY OF UNITED STATES ARMY TEMPORARY MOBILIZATION

BUILDINGS CONCERNING THEIR SUSCEPTIBILITY TO TERMITE DAMAGE

San Francisco District
Los Angeles District
Sacramento District

By

Donald DeLeon and Charles E. Eaton
341 Giannini Hall, U. C.
Berkeley, California

June 12, 1942

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SUBJECT-

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UNITED STATES DEPARTMENT OF AGRICULTURE

BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE

DIVISION OF FOREST INSECT INVESTIGATIONS

SECOND REPORT ON SURVEY OF UNITED STATES ARMY TEMPORARY MOBILIZATION
BUILDINGS CONCERNING THEIR SUSCEPTIBILITY TO TERMITE DAMAGE

SAN FRANCISCO DISTRICT
LOS ANGELES DISTRICT
SACRAMENTO DISTRICT

BY

DONALD DELEON, ASSOCIATE ENTOMOLOGIST

AND

CHARLES B. EATON, ASSISTANT ENTOMOLOGIST

FOREST INSECT LABORATORY
341 GIANNINI HALL, U. C.
BERKELEY, CALIFORNIA

JUNE 12, 1942

SURVEY OF TEMPORARY MOBILIZATION BUILDINGS CONCERNING THEIR SUSCEPTIBILITY
TO TERMITE DAMAGE

April-May, 1942

San Francisco District, U. S. Army Engineers

Summary

Pittsburg: Use of termite shields on first buildings erected is not warranted. There is danger of termite infestation in steps and in door framing of buildings where it contacts ground.

Oakland Port and General Depot: Termite shields used on first-built buildings not necessary. Steps of these buildings better built than those of later buildings as they have been set off from building. Consequently, any termite infestations will be confined to steps. Steps of the newer constructions have been tied in to building and thus give ready hidden access of termites so they can spread through building. Steps of both types of buildings pretty certain to be infested. Fire ladders of new buildings satisfactory, but clearance at skirting poor. Grade covers termite shields and contacts building in some cases.

Salinas Military Airport: Termite shields used on most buildings but inexplicably left off some. Their use, however, is not warranted. Porches and steps of all types but almost all footed on ground. Skirting, in many cases, and fire ladders contact ground. Termites almost certain to infest this wood in contact with ground and from there they have hidden access to building proper.

Fort Ord: Termite shields present on many buildings but installation not warranted where used. Steps and, in some cases, skirting contact ground. These are almost certain to be infested by termites as has the Exchange Office already because of it being in contact with ground. Fire ladders satisfactory.

Fort Ord Village: No termite shields used. No apparent termite hazard because of type of construction. No wood contacts ground.

Camp Roberts: Termite shields on most buildings but not on all and in poor condition. Installation of shields not warranted where used. Fire ladders and steps foot on ground and give opportunity for hidden access by termites to building proper.

Comments: Because of type of construction used for temporary mobilization buildings (Fig. 1) the use of shields is not warranted in any of the areas visited. When steps are footed on the ground and contact the building over the shields as is commonly the case at almost every project (Fig. 2), what little value the shields might have is entirely negated. Consequently, in spite of the termite shields, the buildings of almost all the projects observed are nearly all liable to termite infestation. This condition could be remedied for the buildings already erected, and prevented in future construction by adopting the recommendations given below. If the steps must be placed on the ground they should be set off from the building proper, as has been observed on some projects, so as to confine any possible termite infestation to the steps. However, since steps set on the ground will most probably rot out or become infested by termites and have to be replaced, this latter expedient does not seem to be a logical one.

Fire ladders in contact with the ground (Fig. 4) may be weakened by termites or rot. Such ladders might well break under the strain of emergency use and be the cause of unnecessary injuries.

Grading up to skirting (Fig. 2) also favors termite infestation. This condition was observed on several projects.

Recommendations: Since the use of critical material for termite shields has just recently been prohibited there is no need to recommend again that shields be omitted from future construction.

When replacing worn, rotted out, or termite infested stens, the new wood should be footed six inches above grade on concrete blocks, or the steps should be made of wood or concrete and set off from the building a minimum of two inches. Fire ladders contacting ground should be cut off so as to clear grade by at least six inches. The grade level should be kept at least six inches below any wood such as door framings (Fig. 3), or skirting or siding (Fig. 5).



Fig. 1. The termite shields used here on solid piers and continuous walls are not necessary in the California area. The clearance shown and the ventilation that will be provided give adequate protection against the erection by termites of tubes to buildings. If termites did extend tubes up continuous walls, the shields shown here would not prevent infestation, since the termites could easily go under the shield, which only partially covers the top of the foundation, to the mudsill.

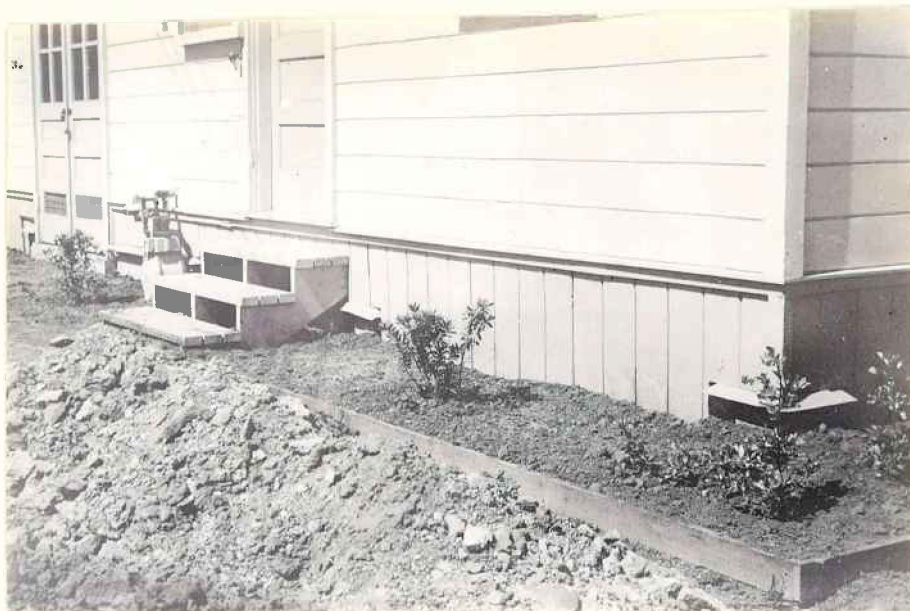


Fig. 2. Wooden step footed on the ground and tied into building over termite shields entirely negates value of shields. Skirting contacting ground also makes shields worthless. The steps should be footed on concrete block, or at least set off from building so as to localize any attacks by termites. The skirting should be cut off so as to clear ground by at least six inches.



Fig. 3. Door framing contacting ground negates any possible value shields may have. Door framing should be kept at least six inches above final grade.



Fig. 4. Fire ladders footed on ground are almost certain to rot out and/or be infested by termites. If damage is extensive, injury may be caused by their breaking under emergency use. Cutting off the ladders so they will clear the earth by at least six inches will prevent any damage of this sort.

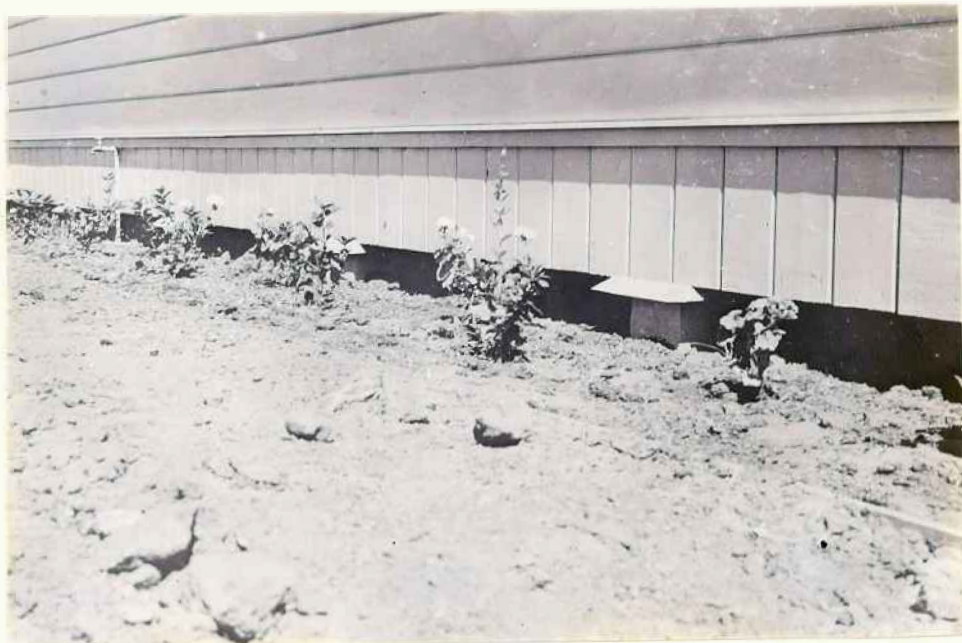


Fig. 5. Good construction showing skirting clearing ground by at least six inches. The shields are properly installed and would give some protection but they are not necessary.

TERMITE INSPECTION REPORT

Agency: U. S. Army
Project: Pittsburg Embarkation Depot Status: Under construction
Location: Between Pittsburg and Antioch

Technical Investigators: Donald DeLeon, Associate Entomologist and C. B. Eaton, Assistant Entomologist, Division of Forest Insect Investigations, Bureau of Entomology and Plant Quarantine, U. S. Department of Agriculture, Berkeley, California.

Date Visited: April 21, 1942 Contacted: Mr. Newton

Housing: Temporary mobilization wood frame buildings.

Site: Level open field.

Soil: Adobe.

Foundations: Concrete piers and continuous through walls.

Clearance: Good, except for some door framing.

Ventilation: Good.

Porches and/or steps: Steps set off from building on concrete piers but footed on wood block and stringer of steps in contact with ground.

Termite shields: Used on first buildings but the latest buildings do not have them.

Comments: Termite shields not needed because construction of such type that shielding not warranted. Steps should have been footed on concrete block. Framing for doorways on some buildings contacts ground.

Recommendations: When replacing worn, rotted out, or termite infested steps new wood should be footed six inches above grade on concrete block. Grade should be lowered where ground contacts wood members of building proper, to prevent rot and possible termite infestations.

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TERMITE INSPECTION REPORT

Agency: U. S. Army

Project: Oakland Port and General Depot Status: Some construction still being done

Location: Maritime Avenue, Oakland, California

Technical Investigators: Donald DeLeon, Associate Entomologist and C. B. Eaton, Assistant Entomologist, Division of Forest Insect Investigations, Bureau of Entomology and Plant Quarantine, U. S. Department of Agriculture, Berkeley, California.

Date Visited: May 22, 1942 Contacted: Mr. M. J. Doyle, Chief of Operations

Housing: Temporary mobilization wood frame buildings; Administration Building, cafeteria, warehouses, etc.; stucco, asbestos shingles, and wood siding.

Site: Filled land.

Soil: Sandy-gravelly.

Foundations: Concrete piers, continuous through walls, concrete piling.

Clearance: Poor in some cases.

Ventilation: Satisfactory

Porches and/or steps: Of barracks completed last October, footed in ground but set off from buildings; of barracks now under construction, footed on ground and tied to building. Of Office Building, footed on ground and tied to building.

Fireladders: Of oldest barracks contact ground; of latest barracks, satisfactory - clear ground.

Termite shields: Used on first built mobilization building but not on latest; other buildings not shielded.

Comments: Use of termite shields on first built mobilization buildings not necessary because of type of construction. The setting off of steps from first built mobilization buildings a good feature but this construction not continued for latest buildings.

Recommendations: When replacing worn, rotted out, or termite weakened steps new wood should be footed six inches above grade on concrete block. Fire ladders contacting ground should be cut off so as to clear ground by at least six inches.

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TERMITE INSPECTION RECORD

Agency: U. S. Army

Project: Salinas Military Airport

Status: Apparently completed
last year

Location: Salinas, California

Technical Investigators: Donald DeLeon, Associate Entomologist and C. B. Eaton, Assistant Entomologist, Division of Forest Insect Investigations, Bureau of Entomology and Plant Quarantine, U. S. Department of Agriculture, Berkeley, California.

Date Visited: May 4, 1942

Contacted: Could locate no officer

Housing: Temporary mobilization buildings.

Site: Level open field.

Soil: Loam.

Foundations: Continuous concrete walls.

Clearance: Good in most cases.

Ventilation: Good

Porches and/or steps: All types - all but one or two footed on ground; some set off, some tied into buildings.

Skirting: Poor - touching ground in many cases.

Fireladders: Contact ground.

Termite shields: Used on most buildings; some such as T-24, 28 & 29 without shields.

Comments: Use of shields on any of these buildings not necessary because of type of construction. A very poor maintenance prospect.

Recommendations: Grade should be lowered so skirting does not touch ground in any case. When replacing worn, rotted out, or termite weakened steps, new wood should be footed six inches above grade on concrete block.

✓

TERMITE INSPECTION REPORT

Agency: U. S. Army

Project: Fort Ord Status: Begun in 1940; completed in 1941.

Location: Near Monterey, California

Technical Investigators: Donald DeLeon, Associate Entomologist and C. B. Eaton, Assistant Entomologist, Division of Forest Insect Investigations, Bureau of Entomology and Plant Quarantine, U. S. Department of Agriculture, Berkeley, California.

Date Visited: May 4 & 5, 1942 Contacted: Major H. R. Tumin, Utilities Officer
Mr. W. E. Hansen

Housing: Temporary mobilization wood frame buildings and warehouses.

Site: Rolling, formerly partly wooded with oak.

Soil: Sandy.

Foundations: Concrete piers and continuous walls.

Clearance: Good - for the most part.

Ventilation: Good - for the most part.

Fireladders: Satisfactory - cut off above ground.

Porches and/or steps: Poor for the most part; contact ground and tied to buildings. Bad case of dry rot in steps of Exchange Office.

Siding: Termites and dry rot present on south side of Exchange Office.

Skirting: Fair - contacts ground in many cases, but generally satisfactory.

Termite shields: Present on many buildings, including some warehouses.

Comments: Presence of termites and rot in Exchange Office which is less than three years old indicates that many of the steps footed in ground will soon have to be replaced. Termite shields have been used unnecessarily because (a) steps and skirting contacting ground negate any possible value of shields and (b) construction otherwise of such a type that shielding is not necessary.

Recommendations: Grade should be lowered where skirting contacts ground; when replacing worn, rotted out, or termite infested steps new wood should be footed six inches above grade on concrete block.

✓

TERMITE INSPECTION REPORT

Agency: U. S. Army

Project: Fort Ord Village

Status: Completed late in 1941 by
FWA. Transferred to U. S.
Army about February 1, 1942.

Location: Near Fort Ord, California

Technical Investigators: Donald DeLeon, Associate Entomologist and C. B. Eaton, Assistant Entomologist, Division of Forest Insect Investigations, Bureau of Entomology and Plant Quarantine, U. S. Department of Agriculture, Berkeley, California.

Date Visited: May 5, 1942

Contacted: Mr. A. C. Miller, Manager

Housing: Defense housing units - frame.

Site: Rolling open field.

Soil: Sandy.

Foundation: Solid, continuous concrete.

Clearance: Good.

Ventilation: Good.

Access opening: Satisfactory.

Porches and/or steps: Excellent - on concrete apron.

Termite shields: None used.

Comments: No apparent termite hazard because of excellent construction.

✓

TERMITE INSPECTION REPORT

Agency: U. S. Army
Project: Camp Roberts Status: Begun 1940; some construction still going on.
Location: Near San Miguel, California

Technical Investigators: Donald DeLeon, Associate Entomologist and C. B. Eaton, Assistant Entomologist, Division of Forest Insect Investigations, Bureau of Entomology and Plant Quarantine, U. S. Department of Agriculture, Berkeley, California.

Date visited: May 5, 1942 Contacted: Chief Engineer Burks

Housing: Temporary mobilization wood frame buildings and warehouses.

Site: Rolling open fields.

Soil: Loam.

Foundations: Concrete piers and continuous walls.

Clearance: Good.

Ventilation: Good.

Fireladders: Contact ground.

Porches and/or steps: Poor - footed on ground and tied to buildings.

Termite shields: On most buildings but not all; in poor condition, badly battered. Ten or fifteen buildings just going up for which shields are specified.

Comments: Termite shields not needed because (a) steps and fire ladders contacting ground negate any possible value of shields and (b) construction otherwise of such a type that shielding is not warranted.

Recommendations: Fire ladders should be cut off so as to clear ground by at least six inches; when replacing worn, rotted out or termite infested steps new would should be footed six inches above grade on concrete block.

✓

SURVEY OF TEMPORARY MOBILIZATION BUILDINGS CONCERNING THEIR SUSCEPTIBILITY
TO TERMITE DAMAGE

May, 1942

Los Angeles District, U. S. Army Engineers

Summary

Camp San Luis Obispo: Use of termite shields not warranted. There is danger of termite infestation in steps and via steps and fire ladders to buildings as steps and some fire ladders contact ground.

Santa Maria-Lompoc Air Base: Termites in old residences just torn down. Consequently, there is considerable danger of rapid termite infestation of steps of buildings to be erected if they are not footed on concrete or entirely of concrete. Fire ladders should clear ground by at least six inches or be footed on concrete. Termite shields not needed.

Camp Cooke: The excellent construction at this camp practically eliminates danger of termite infestations. No termite shields used. Steps, except in one or two cases, and fire ladders foot on concrete blocks, but wood debris under many buildings should be removed. Grade level high, contacting wood in some cases.

Victorville Military Airport: Ventilation for buildings with continuation foundation walls substandard; thus favoring termite infestation. Termite shields unnecessarily used on first-built buildings. Steps and fire ladders contact ground. Termites observed in area so probability good that steps and fire ladders will be infested within a year or so. Wood debris present under some buildings increases termite hazard.

San Bernardino QM Supply Depot: Heavy termite infestation in old buildings in area. Consequently, steps of mobilization buildings footed on ground will probably be infested before long. Repair work on old buildings infested with termites not adequate to prevent re-infestation even for a short time.

San Bernardino Mobile Air Depot: Termite shields, some of black iron, used. Not properly designed for continuous walls to give protection from termite infestation (Fig. 1). Type of construction such that shields are not needed. Steps and fire ladders not yet built, but original plans calling for steps to be footed on ground, should be modified.

Camp Haan: Termite shields not used on older buildings but specified for most of the buildings to be started. Termite shields are not needed on buildings of this type and were properly left off the first-built buildings. Skirting contacts ground in many places giving chance for hidden access of termites to buildings. The steps are footed on concrete blocks so skirting, where it contacts ground, is only place unseen termite infestation could develop.

Comments: Because of type of construction used for temporary mobilization buildings (Fig. 1) the use of shields is not warranted in any of the areas visited. When steps are footed on the ground and contact the building over the shields as is commonly the case at almost every project (Fig. 2), what little value the shields might have is entirely negated. Consequently, in spite of the termite shields, the buildings of almost all the projects observed are nearly all liable to termite infestation. This condition could be remedied for the buildings already erected, and prevented in future construction by adopting the recommendations given below. If the steps must be placed on the ground they should be set off from the building proper, as has been observed on some projects, so as to confine any possible termite infestation to the steps. However, since steps set on the ground will most probably rot out or become infested by termites and have to be replaced, this latter expedient does not seem to be a logical one.

Fire ladders in contact with the ground (Fig. 4) may be weakened by termites or rot. Such ladders might well break under the strain of emergency use and be the cause of unnecessary injuries.

Grading up to skirting (Fig. 2) also favors termite infestation. This condition was observed on several projects.

Recommendations: Since the use of critical material for termite shields has just recently been prohibited there is no need to recommend again that shields be omitted from future construction.

When replacing worn, rotted out, or termite infested steps, the new wood should be footed six inches above grade on concrete blocks, or the steps should be made of wood or concrete and set off from the building a minimum of two inches. Fire ladders contacting ground should be cut off so as to clear grade by at least six inches. The grade level should be kept at least six inches below any wood such as door framings (Fig. 3), or skirting or siding (Fig. 5).



Fig. 1. The termite shields used here on solid piers and continuous walls are not necessary in the California area. The clearance shown and the ventilation that will be provided give adequate protection against the erection by termites of tubes to buildings. If termites did extend tubes up continuous walls, the shields shown here would not prevent infestation, since the termites could easily go under the shield, which only partially covers the top of the foundation, to the mudsill.



Fig. 2. Wooden step footed on the ground and tied into building over termite shields entirely negates value of shields. Skirting contacting ground also makes shields worthless. The steps should be footed on concrete block, or at least set off from building so as to localize any attacks by termites. The skirting should be cut off so as to clear ground by at least six inches.



Fig. 3. Door framing contacting ground negates any possible value shields may have. Door framing should be kept at least six inches above final grade.



Fig. 4. Fire ladders footed on ground are almost certain to rot out and/or be infested by termites. If damage is extensive, injury may be caused by their breaking under emergency use. Cutting off the ladders so they will clear the earth by at least six inches will prevent any damage of this sort.



Fig. 5. Good construction showing skirting clearing ground by at least six inches. The shields are properly installed and would give some protection but they are not necessary.

TERMITE INSPECTION REPORT

Agency: U. S. Army

Project: Camp San Luis Obispo

Status: Begun 1940 - Probably no
more construction

Location: Near San Luis Obispo

Technical Investigators: Donald DeLeon, Associate Entomologist and C. B. Eaton, Assistant Entomologist, Division of Forest Insect Investigations, Bureau of Entomology and Plant Quarantine, U. S. Department of Agriculture, Berkeley, California.

Date Visited: May 5, 1942

Contacted: Lt. Col. E. B. Rowley

Housing: Temporary mobilization wood frame buildings

Site: Level to rolling; wooded in places

Soil: Adobe

Foundation: Concrete piers and concrete through walls

Clearance: Good

Ventilation: Good

Fireladders: Clear of ground in some cases; footed in ground in other cases

Porches and/or steps: Footed on ground and tied to buildings

Termite shields: Present on all buildings observed

Comments: Use of termite shields not necessary because of type of construction. Steps should have been footed on concrete blocks

Recommendations: Fire ladders should be cut off so as to clear ground by at least six inches. When replacing worn, rotted out, or termite infested steps, new wood should be footed six inches above grade on concrete block.

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TERMITE INSPECTION REPORT

Agency: U. S. Army
Project: Santa Maria - Lompoc Air Base Status: Just begun
Location: Santa Maria, California

Technical Investigators: Donald DeLeon, Associate Entomologist and C. B. Eaton, Assistant Entomologist, Division of Forest Insect Investigations, Bureau of Entomology and Plant Quarantine, U. S. Department of Agriculture, Berkeley, California.

Date Visited: May 6, 1942 Contacted: Mr. O. H. Ochmer, Capt.
R. L. Armour

Housing: Temporary mobilization wood frame buildings.
Site: Level; old houses being pulled down; eucalyptus and other shade trees present. Termites present in buildings being torn down.
Soil: Sandy.
Foundations: To be concrete piers and continuous walls.
Clearance: To be a minimum of six inches.
Ventilation: Will be satisfactory.
Fireladders: Detail not seen.
Skirting: None to be used.
Termite Shields: None to be used.
Comments: Because termites are present where buildings are to be erected it is important to have no wood in contact with ground. Termite shields not necessary because of construction to be used.

Recommendations: Porches and steps should be footed six inches above grade on concrete blocks. Fire ladders should be hung so as to clear ground by six inches or footed six inches above grade on concrete block. Grade level should be kept at least six inches below all wood.

✓

TERMITE INSPECTION REPORT

Agency: U. S. Army

Project: Camp Cooke

Status: Begun 1940, completed 1941

Location: West of Santa Maria, California

Technical Investigators: Donald DeLeon, Associate Entomologist and C. B. Eaton, Assistant Entomologist, Division of Forest Insect Investigations, Bureau of Entomology and Plant Quarantine, U. S. Department of Agriculture, Berkeley, California.

Date Visited: May 6, 1942

Contacted: Capt. A. W. Day, Area Engineer

Housing: Temporary mobilization wood frame buildings.

Site: Rolling brush covered hills; some trees but these left standing.

Soil: Adobe and sand.

Foundations: Piers, and continuous concrete through walls, with concrete piers underneath building.

Clearance: Fair; framing around vents and doors, and siding and skirting contact ground in many cases.

Ventilation: Satisfactory.

Access openings: Satisfactory.

Fireladders: Good - footed on concrete blocks.

Porches and/or steps: Supports to Administration Building platforms foot on ground but step stringers foot on concrete block for most buildings; in others foot directly on ground. Most of steps into barracks, mess halls, etc., very good.

Debris: Wood scrape under many buildings. Ground very dry under most buildings but in some cases rather wet.

Termite shields: None used.

Comments: Construction best seen, from standpoint of preventing termite infestation; but grade level too high in some cases. Money and metal have not been wasted by unnecessary use of termite shields.

Recommendations: Outside grade level should be lowered to a minimum of six inches below all wood. Wood supports to porches should be changed where they contact ground, to concrete piers. Wood debris under buildings should be removed.

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TERMITE INSPECTION REPORT

Agency: U. S. Army

Project: Victorville Military Airport

Status: Mostly completed by December 1941. Some construction still under way.

Location: Near Victorville, California

Technical Investigators: Donald DeLeon, Associate Entomologist, and C. B. Eaton, Assistant Entomologist, Division of Forest Insect Investigations, Bureau of Entomology and Plant Quarantine, U. S. Department of Agriculture, Berkeley, California.

Date Visited: May 3, 1942

Contacted: S. J. Cook, Area Engineer
DeWitt Mitcham, Chief Inspector

Housing: Temporary mobilization wood frame buildings.

Site: Rolling desert

Soil: Sandy-gravelly

Foundations: Concrete piers and continuous through walls; for P.O. buildings, cracked.

	Completed Buildings	Buildings under Construction
Clearance:	Good in most cases; poor in a few	For most part less than six inches from framing members
Ventilation:	Good - except P.O. building where it is inadequate.	Good
Fireladders:	Contact ground	Not yet in
Porches and/or steps:	Wood footed on ground - some of concrete.	Wood - to be footed on ground and tied to building.
Skirting:	Contact's ground in some places	Not yet in
Wood debris:	Present under P.O. building	
Termite shields:	Present	Not used

Termites: Present in sagebrush in area.

Comments: Use of termite shields not necessary because of type of construction.

Recommendations: Where continuous through walls are used for new buildings ventilation should be increased to two square feet for every twenty-five lineal feet of foundation. Porches and steps of buildings under construction should have supports footed six inches above grade on concrete block. When replacing work, rotted out or termite infested studs new wood should be footed 6" above grade on concrete block.

TERMITE INSPECTION REPORT

Agency: U. S. Army
Project: California Quartermaster Depot, San Bernardino Branch Status: Under construction
Location: Near San Bernardino. California

Technical Investigators: Donald DeLeon, Associate Entomologist and C. B. Eaton, Assistant Entomologist, Division of Forest Insect Investigations, Bureau of Entomology and Plant Quarantine, U. S. Department of Agriculture, Berkeley, California.

Date Visited: May 11, 1942 Contacted: Capt. Clarence F. Herp, QMC

Housing: T.O. and temporary mobilization buildings.
Site: Level to slightly sloping, several old termite infested buildings present.
Soil: Clay-loam.
Foundations: T.O. building set on ground; mobilization buildings on concrete piers and through walls.
Clearance: Satisfactory for mobilization buildings.
Ventilation: Satisfactory for mobilization buildings.
Fireladders: Detail not seen.
Steps and/or porches: Footed on ground.
Termite shields: Not used.

Comments: Two of the old houses have been raised and concrete foundation walls put under them. One house with siding not yet put on shows extensive termite damage in foundation beams and in studs, also considerable damage to old redwood siding. Heavy drywood termite infestation probably still present in both buildings. Subterranean termite also present in houses before they were raised. Other house with siding and porch step already replaced has new wood members contacting ground and concrete piers practically flush with ground. This wood is almost certain to be infested within a very short time.

Recommendations: New construction should have all steps footed six inches above ground on concrete blocks and grade level kept at least six inches below all skirting and/or siding. Fire ladders should clear ground by at least six inches.

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TERMITE INSPECTION REPORT

Agency:	U. S. Army		
Project:	San Bernardino Mobile Air Depot and Supply Depot	Status:	Under construction
Location:	San Bernardino, California		

Technical Investigators: Donald DeLeon, Associate Entomologist and C. B. Eaton, Assistant Entomologist, Division of Forest Insect Investigations, Bureau of Entomology and Plant Quarantine, U. S. Department of Agriculture, Berkeley, California.

Date Visited: May 11, 1942 Contacted: D. W. Morrison, Regional Engineer
R. E. Curtis, Area Chief Clerk

Housing: Temporary mobilization wood frame buildings.

Site: Level - old field and a few trees.

Soil: Sandy loam.

Foundations, Concrete piers and continuous through walls.

Clearance: Good.

Ventilation: Good.

Firelanders: Not yet erected.

Porches and/or steps: Not yet installed - to be footed on ground.

Doorframings: Contacts ground at present in boiler and furnace rooms.

Termite shields: Used over most piers and all through walls; of galvanized iron and shop coat painted black iron; poorly planned for through walls giving easy access of termites to framing members.

Comments: Use of termite shields not necessary because of type of construction

Recommendations: Porches and steps should be footer six inches above grade on concrete blocks; fireladders should be hung so as to clear ground by at least six inches. Grade level should be kept at least six inches below all wood.

✓

TER-LITE INSPECTION REPORT

Agency: U. S. Army
Project: Camp Haan Status: Mostly completed but considerable
number new buildings to be started.
See also report of visit of July 14, 1941
Location: Near Riverside, California

Technical Investigators: Donald DeLeon, Associate Entomologist and C. B. Eaton, Assistant Entomologist, Division of Forest Insect Investigations, Bureau of Entomology and Plant Quarantine, U. S. Department of Agriculture, Berkeley, California.

Date Visited: May 17, 1942 Contacted: Capt. K. H. Newton

Housing: Temporary mobilization wood frame buildings.

Site: Level to slight slope.

Soil: Clay loam.

Foundation: Concrete piers and continuous through walls.

Clearance: Good in most cases.

Ventilation: Good

Porches and/or steps: Footed on concrete blocks

Skirting and siding: Grade level has not been lowered and skirting still contacts ground in places; clearance of siding low chiefly where concrete slab floor is used.

Ter-lite shields: None used on older buildings but called for on most of the buildings to be started.

Comments: Employment of shields on new buildings not warranted because of type of construction. In last year's report it was suggested that grade be lowered where it contacts ground but this has not yet been done.

Recommendations: Grade should be lowered where skirting contacts ground and where siding is low so as to clear ground by at least six inches.

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SURVEY OF TEMPORARY MOBILIZATION BUILDINGS CONCERNING THEIR SUSCEPTIBILITY
TO TERMITE DAMAGE

May, 1942

Sacramento District, U. S. Army Engineers

Summary

Merced Flying Field: Termite shields unnecessarily used on buildings first built. Steps footed on ground or in a few cases on shielded concrete slab. Clearance of slabs with shield very poor in most cases. Fire ladders footed on ground. Grade too high in places. Termite infestation of steps and fire ladders likely.

Gardner Field: Termite shields unnecessarily used on buildings first built, except chapel where none was used. Steps and fire ladders footed on ground. Infestation of these likely if termites in area.

Minter Field: Clearance of first constructed buildings poor - only two to four inches between girders and ground in many cases. Skirting contacting ground in numerous places; steps and fire ladders also contact ground, making it probable that they will be infested by termites. Termite shields not used on buildings under construction but specified unnecessarily for first buildings constructed.

Hammer Field: Steps and fire ladders footed in ground, making it likely they will be infested by termites. The use of shields on buildings first built was not warranted.

Lemoore Basic Flying School: Some steps and all fire ladders footed on ground; skirting of some barracks contacts ground since grade level has been raised through landscaping. Risk of steps and fire ladders being infested with termites rather high. Fair chance that skirting may also be infested where it contacts ground. The use of termite shields on buildings first constructed was not necessary.

Comments: Because of type of construction used for temporary mobilization buildings (Fig. 1) the use of shields is not warranted in any of the areas visited. When steps are footed on the ground and contact the building over the shields as is commonly the case at almost every project (Fig. 2), what little value the shields might have is entirely negated. Consequently, in spite of the termite shields, the buildings of almost all the projects observed are nearly all liable to termite infestation. This condition could be remedied for the buildings already erected, and prevented in future construction by adopting the recommendations given below. If the steps must be placed on the ground they should be set off from the building proper, as has been observed on some projects, so as to confine any possible termite infestation to the steps. However, since steps set on the ground will most probably rot out or become infested by termites and have to be replaced, this latter expedient does not seem to be a logical one.

Fire ladders in contact with the ground (Fig. 4) may be weakened by termites or rot. Such ladders might well break under the strain of emergency use and be the cause of unnecessary injuries.

Grading up to skirting (Fig. 2) also favors termite infestation. This condition was observed on several projects.

Recommendations: Since the use of critical material for termite shields has just recently been prohibited there is no need to recommend again that shields be omitted from future construction.

When replacing worn, rotted out, or termite infested steps, the new wood should be footed six inches above grade on concrete blocks, or the steps should be made of wood or concrete and set off from the building a minimum of two inches. Fire ladders contacting ground should be cut off so as to clear grade by at least six inches. The grade level should be kept at least six inches below any wood such as door framings (Fig. 3), or skirting or siding (Fig. 5).



Fig. 1. The termite shields used here on solid piers and continuous walls are not necessary in the California area. The clearance shown and the ventilation that will be provided give adequate protection against the erection by termites of tubes to buildings. If termites did extend tubes up continuous walls, the shields shown here would not prevent infestation, since the termites could easily go under the shield, which only partially covers the top of the foundation, to the mudsill.



Fig. 2. Wooden step footed on the ground and tied into building over termite shields entirely negates value of shields. Skirting contacting ground also makes shields worthless. The steps should be footed on concrete block, or at least set off from building so as to localize any attacks by termites. The skirting should be cut off so as to clear ground by at least six inches.



Fig. 3. Door framing contacting ground negates any possible value shields may have. Door framing should be kept at least six inches above final grade.



Fig. 4. Fire ladders footed on ground are almost certain to rot out and/or be infested by termites. If damage is extensive, injury may be caused by their breaking under emergency use. Cutting off the ladders so they will clear the earth by at least six inches will prevent any damage of this sort.



Fig. 5. Good construction showing skirting clearing ground by at least six inches. The shingles are properly installed and would give some protection but they are not necessary.

TERMITE INSPECTION REPORT

Agency: U. S. Army
Project: Merced Flying Field Status: Still under construction
Location: Near Atwater, California

Technical Investigators: Donald DeLoach, Associate Entomologist and C. B. Eaton, Assistant Entomologist, Division of Forest Insect Investigations, Bureau of Entomology and Plant Quarantine, U. S. Department of Agriculture, Berkeley, California.

Date Visited: May 20, 1942 Contacted: C. E. Duckering, Res. Engineer

Housing: Temporary mobilization wood frame buildings.

Site: Level - barley field and vineyard.

Soil: Sandy.

Foundations: Piers and continuous walls.

Clearance: Good - except framing of some doorways, as that at side of Headquarters Building, where it contacts ground.

Ventilations: Good - except possibly not enough for #23.

Porches and/or steps: Footed on ground and tied to building for the most part. In a few cases footed on a shielded concrete slab; in other cases of concrete.

Fireladders: Footed in ground.

Skirting: Good clearance.

Debris: Buildings clean underneath.

Termite shields: Used on oldest buildings.

Comments: Termite shields have been used unnecessarily since (a) steps and fire ladders contacting ground negate any possible value of shields and (b) construction otherwise of such a type that shields are not necessary.

Recommendations: Fire ladders contacting ground should be cut off so as to clear ground by at least six inches. When replacing worn, rotted out or termite weakened steps the new wood should be footed six inches above grade on concrete block.

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TERMITE INSPECTION REPORT

Agency: U. S. Army
Project: Gardner Field Status: Started about May, 1941; still under construction.
Location: Near Taft, California

Technical Investigators: Donald DeLeon, Associate Entomologist and, C. B. Eaton, Assistant Entomologist, Division of Forest Insect Investigations, Bureau of Entomology and Plant Quarantine, U. S. Department of Agriculture, Berkeley, California.

Date Visited: May 18, 1942 Contacted: L. M. Keith, Resident Engineer
H. F. Beck, Assoc. Superintendent

Housing: Temporary mobilization wood frame buildings.

Site: Range land - slight slope.

Soil: Gravelly, sandy loam.

Foundations: Concrete piers and continuous walls.

Clearance: Good.

Ventilation: Good.

Fireladders: Poor - footed on ground.

Porches and/or steps: Poor - footed on ground, but set off both from first built buildings and from those under construction. In some cases, however, hand rails tie steps to building.

Termite shields: Used on old buildings except step piers; omitted from those under construction, and also chapel which was completed at time of older buildings.

Comments: Use of termite shields not necessary because (a) fire ladders and some steps give ground to building contact through wood which negates purpose of shield, (b) type of construction such that use of shields not warranted.

Recommendations: Fire ladders should be cut off so as to clear ground by at least six inches. When worn out, rotted, or termite infested steps are replaced new wood should be footed six inches above grade on concrete block.

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TERMITE INSPECTION REPORT

Agency: U. S. Army
Project: Minter Field Status: Started August, 1941; still under construction.
Location: Lerdo, California

Technical Investigators: Donald DeLeon, Associate Entomologist and C. B. Eaton, Assistant Entomologist, Division of Forest Insect Investigations, Bureau of Entomology and Plant Quarantine, U. S. Department of Agriculture, Berkeley, California.

Date visited: May 19, 1942 Contacted: E. J. Taerink, Resident Engineer

Housing: Temporary mobilization wood frame buildings.
Site: Practically level; vacant land.
Soil: Sandy.
Foundations: Concrete piers and continuous reinforced concrete walls for buildings under construction; first buildings similar except continuous walls apparently not reinforced as cracks observed in several cases.
Clearance: Poor for the most part; piers too low bring girders down to within two to four inches of the ground. Good on new construction.
Ventilation: Fair; new construction having through walls and wood floors has insufficient vent openings.
Skirting: Clear of ground by 1" to 2" but in some cases contacting ground; not spaced (old buildings).
Access openings: None (old buildings).
Fireladders: Poor - footed on ground.
Porches and/or steps: Poor - footed on ground and in many cases tied to buildings.
Warehouses: New warehouses with concrete floors backfilled even with floors. Old warehouses with wood floors.
Termite shields: Old buildings shielded; new buildings will be without shields.
Comments: Slight clearance of buildings first built increases hazard of termite infestation. Construction of new buildings better in this regard. Termite shields unnecessarily used on first built buildings.
Recommendations: Fire ladders should be cut off so as to clear ground by at least six inches. When worn out, rotted, or termite infested steps are replaced, new wood should be footed six inches above grade on concrete block.

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TERMITE INSPECTION REPORT

Agency: U. S. Army
Project: Hammer Field Status: Still under construction
Location: Fresno, California

Technical Investigators: Donald DeLeon, Associate Entomologist and C. B. Eaton, Assistant Entomologist, Division of Forest Insect Investigations, Bureau of Entomology and Plant Quarantine, U. S. Department of Agriculture, Berkeley, California.

Date Visited: May 20, 1942 Contacted: H. M. Evans, Asst. Res. Engineer

Housing: Temporary mobilization wood frame buildings.

Site: Level - open field.

Soil: Sandy.

Foundations: Concrete piers and through walls.

Clearance: Good

Ventilation: Good

Fireladders: Poor - contact ground.

Porches and/or steps: Poor - footed on ground; set off from buildings in some cases; handrails tie steps to building in some cases.

Termite shields: Present on oldest buildings; omitted from most recent buildings.

Comments: Use of termite shields unnecessary because (a) fire ladders and some steps give ground to building connections through wood which negates purpose of shields; (b) type of construction such that use of termite shields not warranted.

Recommendations: Fire ladders should be cut off so as to clear ground by at least six inches. Where worn out, rotted, or termite infested steps are replaced the new wood should be footed on concrete block six inches above grade.

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TERMITE INSPECTION REPORT

Agency: U. S. Army
Project: Lemoore Basic Flying School Status: Begun November, 1941;
completed about
February, 1942
Location: About 6 miles West of Lemoore on Highway 198

Technical Investigators: Donald DeLeon, Associate Entomologist and C. B. Eaton, Assistant Entomologist, Division of Forest Insect Investigations, Bureau of Entomology and Plant Quarantine, U. S. Department of Agriculture, Berkeley, California.

Date visited: May 19, 1942 Contacted: G. G. McDaniel, Res. Engineer

Housing: Temporary mobilization wood frame buildings.
Site: Level - bare land.
Soil: Clay loam; some alkali.
Foundations: Concrete piers and continuous walls.
Clearance: Good, for the most part.
Ventilation: Good, for the most part.
Fireladders: Poor - footed on ground.
Skirting: Contacts ground where grade has been raised as around Barracks #945.
Porches and/or steps: Fair - several different types of construction; mostly wood footed on ground or footed on or against concrete walk. Tied to building in many cases. Concrete steps used in some cases, as the HQ building.
Termite shields: Used on 176 buildings; omitted from 67 new buildings under construction.
Comments: Termite shields have been used unnecessarily because (a) fire-ladders, some skirting, and some steps, give ground to building connections which negates purpose of shields; (b) type of construction such that use of shields not warranted.
Recommendations: Fireladders should be cut off so as to clear ground by at least six inches. When worn out, rotted, or termite infested steps are replaced new wood should be footed on concrete block six inches above grade.

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